What is Claimed is:

1. An acoustic echo control system, comprising:

an adaptive echo remover estimating an echo signal which corresponds to a far end signal from a far end talker and generating the estimated echo signal;

a double talk detecting unit detecting a double talk state in accordance with a near end talker signal, the far end signal and the echo signal thereof; and

a control unit suspending an operation of the adaptive echo remover in the double talk state in accordance with an output signal from the double talk detecting unit.

2. The system of claim 1, wherein the double talk detecting unit comprises:

a double talk detecting lattice prediction unit receiving a near end signal in which the near end talker signal is compounded with the echo signal as an input signal and computing a reflection coefficient variation which indicates a characteristic of a sound signal;

a threshold value determining lattice prediction unit receiving the near end signal and estimating a reflection coefficient variation with respect to the far end signal using the reflection coefficient of the sound signal, thereby computing a threshold value for the double talk detection; and

a double talk determining unit receiving and comparing output signals from the double talk detecting and threshold value determining grid prediction units and accordingly determining the double talk state.

3. The system of claim 2, wherein the reflection coefficient variation of the input signal is computed by an equation

$$D_z(n) = \frac{\sum_{i=1}^{\Gamma}[k_i(n) - k_i(n-T)]^2}{\sum_{i=1}^{\Gamma}[k_i(n)]^2} \times 100$$

wherein Γ is a degree in which there is a reflection coefficient having an effective value in the grid prediction unit comprised of pth degree, K is a parameter indicating the characteristic of the voice signal, $K_i(n)$ is a reflection coefficient in a discrete time n and $K_i(n-T)$ is a reflection coefficient from a time n to a sample T.

4. The system of claim 2, wherein the threshold value is computed by an equation

$D_{th}(n)= \gamma \times \max \{D_x(n-C), D_x[n-(C+1)],\ldots,D_x(n-M)\}$, wherein γ is a constant, C is a value which time delay due to a direct path of the echo path is considered and M is a range of a previous value which is under consideration for effects of an indoor space.

5. The system of claim 4, wherein γ is larger than 1 and should be set up considering an echo signal-to-noise ratio.

6. A double talk detector of an acoustic echo control system, the double talk detector comprising:

a double talk detecting grid prediction unit receiving a near end signal in which a near end talker signal is compounded with an echo signal according to a far

end signal from a far end talker as an input signal and computing a reflection coefficient variation which indicates a characteristic of a sound signal;

a threshold value determining grid prediction unit receiving the near end signal and estimating a reflection coefficient variation with respect to the far end signal using the reflection coefficient of the sound signal, thereby computing a threshold value for the double talk detection; and

a double talk determining unit receiving and comparing output signals from the double talk detecting and threshold value determining lattice prediction units and accordingly determining the double talk state.

7. A double talk control method of an acoustic echo control system, comprising:

computing a reflection coefficient variation of a far end signal from a far end talker and a reflection coefficient variation of a near end signal in which a near end talker signal and an echo signal in accordance with the far end signal are compounded;

computing a threshold value for detecting a double talk state from the reflection coefficient variation of the far end signal;

comparing the threshold value and the reflection coefficient variation of the near end signal; and

suspending a filter coefficient adapting operation of an adaptive echo remover which generates an estimated echo signal from the echo signal when the reflection coefficient variation of the near end signal is larger than the threshold value, or eliminating the echo signals by adapting filter coefficients when the reflection coefficient variation is not larger than the threshold value.

~~8~~. A double talk detecting method of an acoustic echo control system, comprising:

computing a reflection coefficient variation of a far end signal from a far end talker and a reflection coefficient variation of a near end signal in which a near end talker signal and an echo signal in accordance with the far end signal are compounded;

computing a threshold value for detecting a double talk state from the reflection coefficient variation of the far end signal;

comparing the threshold value and the reflection coefficient variation of the near end signal; and

when the reflection coefficient variation of the near end signal is larger than the threshold value, determining that a double talk is generated and detecting the double talk.